

Applicant : Philip A. Cooper et al.  
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Attorney's Docket No.: 11910-002001

### REMARKS

The comments of the applicants below are each preceded by related comments of the examiner (in small, bold type).

**The disclosure is objected to because of the following informalities: enclosure of appendix is improper. An appendix is limited to enclosure of a sequence listing table or a computer program listing (see MPEP § 608.05). Otherwise, information contained within the appendix should be incorporated into the specification or filed through an IDS. Appropriate correction is required.**

The applicant respectfully requests that correction of the requirement for incorporation of the appendix into the specification be deferred until such time as the examiner has determined that there are patentable claims.

**Claims 1 -3 and 8 -11 are rejected under 35 U. S. C. 102(e) as being anticipated by Shlafman (US Patent Pub. 2002/0065755 A1).**

**Regarding Claim 1, Shlafman discloses a machine-based method comprising:**

- **receiving data representing current prices of options on a given asset ("Typically, processor receives as input information regarding trends governing the behavior of a certain asset, preferably along with a group of other related assets and/or other variables ... Alternatively or additionally, processor may be programmed to extract trend and variance characteristics from raw data regarding the asset itself and other related factors." – see paragraph 0042).**

- **by machine, performing computations to derive from said data an estimate of a corresponding implied probability distribution of the price of said asset at a future time ("A method for trading in a financial derivative of an underlying asset includes determining a trend predictive of a future value of the asset and a predicted variance of the future value. Responsive to the trend and the variance, a density function is calculated, which is indicative of a probability distribution of the value at a first time in the future." – see abstract), and**

- **making information about said probability distribution available within a time frame that is useful to investors ("... a trading decision is made with regard to the derivative of the asset based on the density function. – see abstract").**

The applicant disagrees.

In the applicant's claim 1, "current prices of options on a ... asset" are used to derive an estimate of an implied probability distribution of the price of the asset at a future time. This information is useful to making investment decisions about the asset. What Shlafman describes is essentially the reverse process in which information about the price of an asset is used to make decisions about investments in options on the asset. Shlafman describes a system that "receives as input information governing the behavior of a certain asset ... receives a measure of the

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variance in the price of the asset", and later "uses the trend and variance information to find a probability distribution of the asset price over time... The probability distribution function is used in making decisions with respect to trading in derivatives based on the asset, such as setting the purchase price for an option at a given time or deciding on whether to purchase the option at the going price." (paragraphs 42-43 on page 3, emphasis added).

Claims 2 and 3 are patentable for at least the same reasons as claim 1. Claims 8 and 9 are patentable for at least similar reasons as claim 1. Claims 10 is patentable for at least the same reasons as claim 9. Claim 11 was canceled without prejudice or disclaimer.

Claim 27 is rejected under 35 USC 103(a) as being unpatentable over Shlafman in view of Makivic (US Patent 6,061,622).

Shlafman discloses a method comprising:

- by machine, performing computations that use using Monte Carlo techniques to estimate a probability distribution of the value at a future time T of a portfolio that includes the option. ("Monte Carlo methods can be used to simulate the behavior of the underlying asset and/or derivative over time." — see paragraph 0011).

Shlafman does not teach a method comprising:

- defining a current value of an option as a quadratic expression that depends on the difference between the current price of the option and the current price of the underlying security.

Makivic discloses a method comprising:

- defining a current value of an option as a quadratic expression (quadratic trend — see col. 16, line 57) that depends on the difference between the current price of the option and the current price of the underlying security. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Shlafman by incorporating the definition of a current value of an option as a quadratic expression, as was done by Makivic to provide an additional source of analytical data to the system user.

The applicant disagrees.

Claim 27 has been amended to make it clear that the computations performed to estimate a probability distribution of the value at a future time T of a portfolio use the quadratic expression.

Neither Shlafman nor Makivic uses the option price to determine anything, let alone the probability distribution at a future time T of a portfolio. Shlafman, as noted above, uses the price of an asset to make decisions about investments in options of the asset. Makivic, as explained in the applicant's response to the action dated January 16, 2004, uses the historical price of the underlying security to determine the current price(s) of options.

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All of the dependent claims are patentable for at least the reasons for which the claims on which they depend are patentable.

Canceled claims, if any, have been canceled without prejudice or disclaimer.

Any circumstance in which the applicant has (a) addressed certain comments of the examiner does not mean that the applicant concedes other comments of the examiner, (b) made arguments for the patentability of some claims does not mean that there are not other good reasons for patentability of those claims and other claims, or (c) amended or canceled a claim does not mean that the applicant concedes any of the examiner's positions with respect to that claim or other claims.

Please apply any charges or credits to deposit account 06-1050, referencing attorney docket 11910-002001.

Respectfully submitted,

Date: May 2, 2005

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\* See attached document certifying that Ido Rabinovitch has limited recognition to practice before the U.S. Patent and Trademark Office under 37 CFR § 10.9(b).

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